

# OPTICAL WAVEGUIDE LENS AND METHOD OF FABRICATION

## ABSTRACT OF THE INVENTION

A spherical lens formed by fusing a generally homogenous glass lens blank to the distal end of an optical fiber, heating and tensioning the lens blank to separate it in two segments with the segment attached to the optical fiber defining a tapered end, and heating the lens blank above its softening point so that the spherical lens forms. The lens blank is fabricated from a 4 mole percent borosilicate glass having a softening point less than that of the core of the optical fiber. The lens member defines a throat region adjacent the optical fiber whose cross-sectional dimension is substantially greater than the diameter of the optical fiber, but substantially less than the diameter of the spherical lens.